

Other Dairy Cattle. *Dutch Belted* cows are black, with a belt of white around the middle. Their milk production is about as much butterfat as that of the Brown Swiss and Ayrshire. Dutch Belted cows were brought to the United States from The Netherlands in the late 1830's. This breed is raised mostly in the eastern United States.

French Canadian cattle are a small, dark brown breed, much like the Jersey and the Guernsey. They are raised mostly in Quebec. The milk of these cows is rich in butterfat. French Canadian cattle are not common in any sections of the United States.

Kerry cattle, a black breed, originated in Ireland. They are closely related to *Dexter* cattle, which are small and have short legs. Dexters produce about one half Dexter offspring, one fourth Kerry-type offspring, and one fourth abnormal "bulldog" calves that die at birth. Kerry and Dexter cattle are not commonly raised in the United States.

Red Sindhi is a red, Brahman-type of cattle that originated in the province of Sind in Pakistan. It produces more milk than the Brahman, and has been crossed with other breeds in the United States to develop cattle with greater resistance to high temperatures.

Dual-Purpose Cattle

Some cattle can be raised for beef or kept as dairy cattle. They are called *dual-purpose cattle*. These animals have many of the qualities of beef cattle, but they also are good milk producers. The most important dual-purpose breeds are the *Milking Shorthorn* and the *Red Poll*.

Poll. Many farmers raise dual-purpose breeds only for meat. These breeds produce calves that grow rapidly and can be slaughtered for veal or baby beef sooner than some beef cattle breeds.

Dairy cattle provide much of our beef and veal. But they are not classified as dual-purpose cattle, because they are bred and raised chiefly for milk.

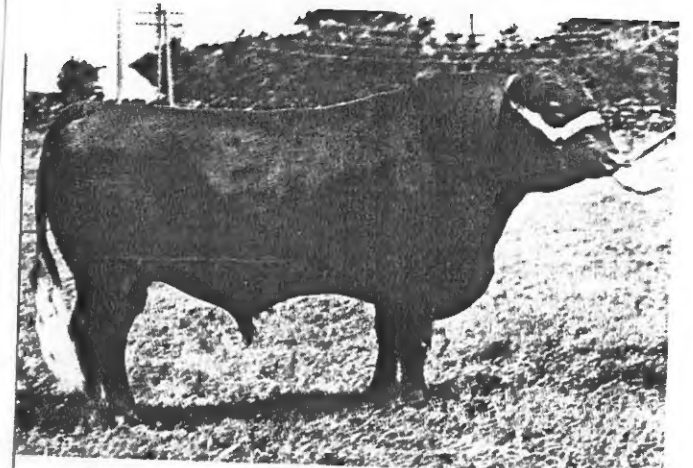
Milking Shorthorns produce large amounts of milk and beef. They are popular with farmers who do not specialize either in fattening beef cattle for market or in producing milk for big cities.

Milking Shorthorns are red, white, roan, or red and white spotted. They were brought to Virginia and Maryland from England in 1783. Milking Shorthorns are raised in the Middle West and the eastern and southeastern sections of the United States. The American Milking Shorthorn Society has headquarters in Springfield, Mo.

Red Polls are red, hornless cattle. Horned Norfolk cattle were crossed with polled Suffolk to produce Red

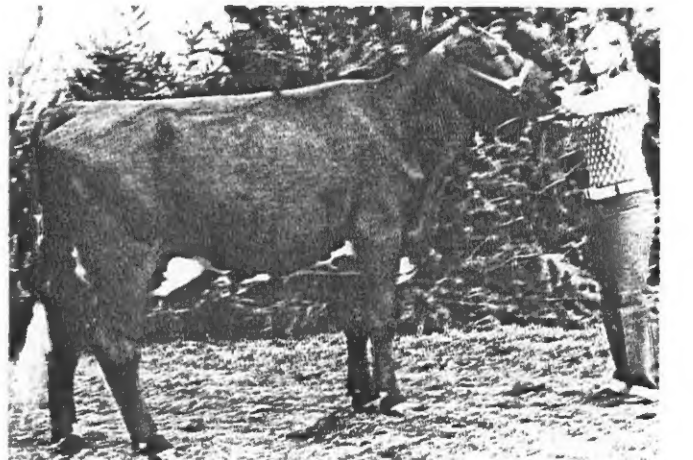
Polls. Red Polls are smaller than Shorthorns but are less numerous than Milking Shorthorns.

The breed originated in the counties of Suffolk and Norfolk in England. Red Polls were brought to the United States in 1873. Most of the Red Polls in the United States are raised on farms in the Middle West. The Red Poll Cattle Club of America has its headquarters located in Lincoln, Nebr.



Red Poll

Danny Weaver, Agri-Graphic Services



Milking Shorthorn

Danny Weaver, Agri-Graphic Services

Breeding and Care of Cattle

Breeding. Cattle breeders select and mate the best types of cattle for a special purpose, such as producing large quantities of milk or high-grade beef. They select the best of the offspring until, after several generations, the cattle possess the desired qualities. In this way, beef cattle have been bred to mature early and thus can be sold at a greater profit than those that they had to be fattened over a longer time. Since breeding has increased milk output and the percentage of butterfat.

Heifers usually are mated when they are between 18 and 27 months old. A cow carries her calf in her womb for nine months before it is born. Cows usually have one calf every year. Sometimes twins are born. Bulls start breeding at the age of 1 year, but they are not active between 2 and 6 years of age.

A cow cannot produce milk unless it has calved. After the birth of the calf, the cow usually gives milk for about 10 months. A cow that does not give milk is called a "dry cow."

Feeding. Feeding methods have greatly improved the production of both meat and milk. Cattle are hearty eaters. Here is a recommended daily diet for fattening a 2-year-old beef steer: 25 pounds (11 kilograms) of corn or sorghum silage, 4 pounds (1.8 kilograms) of clover hay, 14 pounds (6 kilograms) of corn or ground grain sorghum, and 1½ pounds (0.57 kilogram) of linseed meal or cottonseed meal.

The fattening diet of younger cattle contains more grain and less roughage, or coarse feed such as hay.

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Cattle feeders watch the appetites of their cattle closely. They often add "blackstrap" molasses, a low-grade sugar solution, to encourage cattle to eat more. The best feeders use the latest scientific methods to make their cattle gain weight rapidly at the lowest cost.

Certain chemicals may be added to cattle feed to make cattle eat more and fatten more quickly. Antibiotics are also added to feed to increase gains in weight.

The amount of milk and butterfat produced each year by a cow can be increased by a proper diet. The average dairy cow eats 3 pounds of silage and 1 pound of hay a day for every 100 pounds of its body weight. Dairy cows usually receive 1 pound of grain or other concentrated feed for every 4 to 6 pounds of milk. Both dairy and beef cattle eat large amounts of roughage, or rough feed such as clover and alfalfa. They eat huge amounts of grass every year and turn it into meat and milk for us to eat and drink.

Many cattle have been poisoned by eating certain kinds of plants found in dry regions of the western United States. Weeds that may poison cattle include locoweed, death camas, prince's-plume, and some lupines and larkspurs. Cattle owners sometimes destroy these plants with chemicals. See LOCOWEED.

Diseases sometimes attack cattle. The most serious cattle diseases include *anthrax*, *blackleg*, *bloat*, *brucellosis*, *foot-and-mouth disease*, and *mastitis*. All except bloat and mastitis are contagious.

Anthrax is caused by a germ that is usually picked up from the soil. It generally enters an animal's body through the mouth. Anthrax causes a high fever and often stops the flow of milk. It may be fatal to cattle. See ANTHRAX.

Blackleg is one of the deadliest diseases. It usually strikes animals between 6 and 18 months of age. It causes lameness, convulsions, rapid swelling, and high fever. Blackleg, carried by a germ in the soil, usually causes death within 36 hours.

Bloat is a condition in which gas swells the paunch,

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causing the animal to stagger and gasp for breath. Cattle may be stricken with bloat after grazing in moist pastures. A change in feed when cattle are very hungry also may cause them to bloat.

Brucellosis, or *Bang's Disease*, attacks the lymph glands, udders, and reproductive organs of cows. Cattle pick up the brucellosis germ from dirty feed or other objects. Cows with brucellosis often cannot bear calves. See BANG'S DISEASE.

Foot-and-Mouth Disease is caused by a virus. The disease causes lameness and reduces milk output. The United States Department of Agriculture does not allow the import of cattle from countries where the disease is known to exist. See FOOT-AND-MOUTH DISEASE.

Mastitis is the most costly disease of dairy cattle in the United States. The disease is caused by germs that enter the udder. The germs do the greatest damage when the udder is injured or exposed to cold, wet surfaces. The udder then becomes hard, swollen, and painful. Mastitis causes a drop in milk production and quality. Antibiotics can be used effectively in treatment.

Insects spread such diseases as *anaplasmosis*, which is similar to malaria. *Texas fever* is an infectious disease caused by the cattle tick (see CATTLE TICK). Many kinds of flies annoy cattle. Some flies merely cause cattle to produce less meat or milk. But heel flies lay eggs on the heels of cattle. The larvae work up through the body and bore holes in the hide. Cattle owners spray cattle with insecticides to kill flies and other insects. Veterinarians use modern vaccines, drugs, and antibiotics to help keep cattle healthy and to cure sickness.

Dwarf Cattle are undersized animals that do not develop fully. They are stunted at birth, and many die soon after they are born. Cattle owners have become alarmed because more and more dwarf cattle have appeared in purebred herds. Dwarfs appear in every major breed. Some breeders believe that efforts to develop better beef cattle may lead to dwarfism. Some herds with otherwise desirable qualities seem to produce many dwarfs.

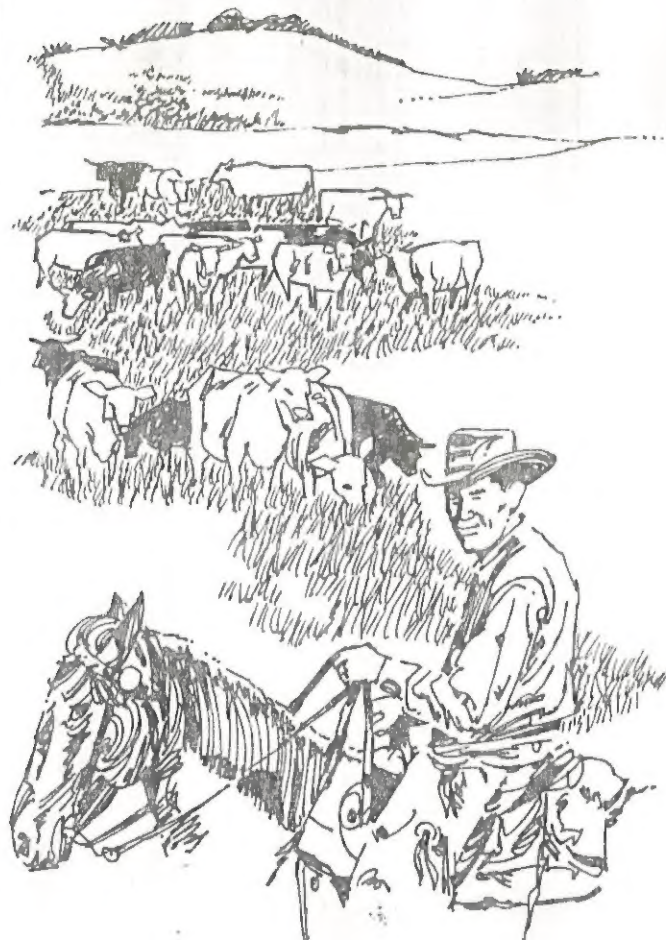
Raising and Marketing Cattle

Most beef calves are born on Western ranches in the spring. The young spend the summer with their mothers in fenced pastures, or on an open range. Most calves are branded (marked) with a hot iron to show ownership (see RANCHING [picture: Famous Ranch Brands]). In the fall, the calves are weaned (taken from their mothers).

Feeder Cattle. The rancher sells the weaned calves to farmers, or *feeders*, in the Middle West, on the West Coast, or elsewhere. Such calves, called *feeder cattle*, are raised in *feed lots*. A feed lot is an enclosed area where cattle are fed special feed to fatten them for market. The farmer then sends them to a *stockyard* (market). Meat packers at the market buy cattle for slaughter. The largest stockyards are in Omaha, Nebr.; South St. Paul, Minn.; Oklahoma City, Okla.; and Sioux City, Iowa. See MEAT PACKING.

Ranchers sometimes send their calves directly to a market instead of selling them to farmers. Farmers, in turn, may buy feeder cattle from a carefully chosen market instead of from a rancher. The farmers fatten such calves, then sell them back to a market at a profit.

A farmer usually fattens feeder cattle for 90 to 180 days. The farmer tries to sell them when market con-



Large herds of cattle feed on the plains of Manitoba, one of Canada's western provinces, and cowboys dressed in traditional hats and chaps still must ride the range. Next to wheat, beef is Manitoba's most important farm product.





Harold Hopkinson's "Someone Opened the Gate," above, and other Western paintings by him and his son Glen are attracting attention at the Kimball Art Center.

ditions give the biggest profit. A steer is normally ready for slaughter by the time it is 18 months old, but it may be 2 years old or older. Cattle reach full growth in two to three years. But many cattle are fat enough before they reach *maturity* (full growth). Such cattle, called *finished* cattle, may be as young as 8 months, and may weigh only 600 pounds (270 kilograms).

Some farmers in the East and Middle West breed and raise their own cattle. But most farmers find it more profitable to buy feeder cattle and use their land for growing feeds to fatten the stock.

Grass-Fed Cattle. Cattle owners sometimes feed their stock on grass for one or two years, and sell the animals as "grass fattened." Some grass-fattened cattle also receive grain feed for several weeks before they are fat enough to send to market. Farmers in southern coastal areas raise many calves that are sold for early slaughter or for grazing on richer pastures. Their land is not suitable for raising feeds on which to fatten cattle.

Dairy Cows. Most dairy cows spend their lives on one farm. Heifers from cows that have produced little milk are sent to market to be slaughtered for veal when only a few weeks old. It is probable that such calves, like their mothers, would be poor milk producers. Most milk calves also are sent to market. Dairy farmers are careful to save the female calves of the best cows for herd replacements. When a cow fails to produce milk economically, it is sent to a livestock market and sold for slaughter. Such dairy cows produce much of our low-grade beef.

Show Cattle. Cattle owners exhibit prize animals at county fairs, state fairs, and livestock expositions. A champion dairy cow has a wide chest, strong head, and well-developed udder. A blue-ribbon beef animal has a

solid, compact body, with short legs and broad head. Exhibitors such as Four-H Club members start developing show cattle as soon as the calves are born. The animals are carefully fed, exercised, and groomed. Their coats are trimmed and their horns are polished.

History

Early Cattle. Cattle belong to the genus *Bos*. Modern breeds descended from two species: *Bos indicus*, the humped cattle of Asia; and *Bos taurus*, the wild cattle of Europe. Most U.S. breeds descended from European cattle, especially the subspecies *B. taurus primigenius* and *B. taurus longifrons*. *B. taurus primigenius* were large, long-horned cattle. They were also called *auroch* (giant ox). *B. taurus longifrons*, also called the *celtic ox*, were smaller and had short horns.

People have raised cattle for thousands of years. Prehistoric drawings of cattle have been found on the walls of the Lascaux Cave in France and the Altamira Cave in Spain. Pictures carved in ancient Egyptian tombs show oxen pulling plows and treading grain.

Cattle raisers once followed their herds from land to land as the cattle searched for grass to eat. Later, some of these herders and their families settled in one place. They fed their cattle grain in addition to grass.

Beginning of Breeding. The first cattle were used as work animals as well as for producing milk and beef. The same kind of animal performed all three tasks. Gradually, people began to breed cattle either as beef animals or for producing milk. Robert Bakewell, a farmer who lived in Leicestershire, England, first used modern livestock breeding methods. He began improving his cattle during the late 1700's. He used a breed of cattle called *Longhorns* (different from Texas Longhorns), and tried to develop cattle that would give larger amounts of meat.

American Cattle. Some historians believe that cattle were first brought to the Americas by Norwegian Vikings in the early 1000's. In 1493, Christopher Columbus brought long-horned cattle from Spain to Santo Domingo (now part of the West Indies) on his second voy-

age to America. Descendants of these cattle later were taken into Mexico and eventually into Texas. They were ancestors of the famous Texas Longhorns.

Governor Edward Winslow of Plymouth Colony brought cattle to New England in 1624. Cattle raising spread westward as the pioneers moved across the continent. They used oxen to pull their wagons and plows.

Railroads helped cattle ranchers on the plains by providing transportation to the eastern markets. Refrigerated railroad cars made it possible to ship meat products safely over long distances. Breeders' organizations encouraged the improvement of beef and dairy cattle. Livestock shows spurred interest in breeding prizewinning cattle.

In the West, ranchers came to realize that the Texas Longhorn grew slower and was less profitable than such breeds as the Hereford and Aberdeen-Angus. The Longhorn produced little beef in proportion to its bulk. By the 1920's, the Texas Longhorn had nearly disappeared from the western ranges.

Growth of Herds. In 1900, there were about 59,739,000 cattle in the United States. The United States Department of Agriculture in the mid-1970's estimated the number of cattle in the country at about 128 million. It valued them at about \$24½ billion.

United States cattle owners have worked to improve breeds and to increase beef and milk production. By the early 1930's, Americans were eating more beef than pork. The average person in the United States eats about 95 pounds (43 kilograms) of beef and drinks about 115 quarts (109 liters) of milk every year.

The World Supply. There are about 1.2 billion beef and dairy cattle in the world. Asia raises three-tenths of the world's cattle. Africa and North and South America also have large numbers of cattle.

India has the most cattle of any country. But India's cattle are undernourished and have little work value. There is also little demand for meat in India because the cow is considered sacred. Other countries with large numbers of cattle include the United States, Russia, Brazil, and China. The United States, Russia, and Brazil have the most beef cattle. Russia, the United States, and France have the most dairy cattle.

Scientific Classification. Domestic cattle belong to the genus *Bos* of the bovid family, Bovidae. H. M. BRIGGS

Questions

- What are polled cattle?
- What do cattle owners strive for in breeding beef cattle? In breeding dairy cattle?
- Why are Charolais cattle popular for crossbreeding?
- What was the original meaning of the word *cattle*?
- About how many beef and dairy cattle are there in the world?
- How can Holsteins be identified? How do they rank in size among the dairy breeds? In milk production?
- Why had Texas Longhorns nearly disappeared in the United States by the 1920's?
- What are purebred cattle? Are they always registered?
- How long do cows usually produce milk? What usually happens to a cow that no longer gives milk?
- What country has the most cattle?

CATTLE BRAND. See RANCHING (picture: Famous Ranch Brands of the Old West).

CATTLE DRIVE. See COWBOY (The Cattle Drive); WESTERN FRONTIER LIFE (The Cattle Boom; Life in the Country).

CATTLE EGRET. See Egret.

CATTLE GRUB. See WARBLE FLY.

CATTLE PLAGUE. See RINDERPEST.

CATTLE RANCH. See RANCHING.

CATTLE TICK, or TEXAS FEVER TICK, carries Texas fever, a disease of cattle. The tick is round and chestnut brown in color. It carries a one-celled animal that causes the disease. The female tick leaves the one-celled animals in the cow's body when it sucks the cow's blood.

Texas fever is an infectious disease. The one-celled animals multiply in the cattle's blood and destroy the red blood corpuscles. The disease became



USDA
The Cattle Tick causes Texas fever when it bites cows and sucks their blood.

Related Articles in WORLD BOOK include:

KINDS OF CATTLE		
Aurochs	Carabao	Ox
Bison	Kouprey	Water Buffalo
Buffalo	Musk Ox	Yak
DISEASES AND PESTS		
Anthrax		Lumpy Jaw
Bang's Disease		Mange
Botfly		Rinderpest
Cattle Tick		Tsetse Fly
Face Fly		Warble Fly
Foot-and-Mouth Disease		

INDUSTRY		
Agriculture	Dairying	Meat Packing
Breeding	Livestock	Ranching
PRODUCTS		
Beef	Butter	Cascine
240		
Cheese	Leather	Fat
Gelatin	Milk	Veal

OTHER RELATED ARTICLES

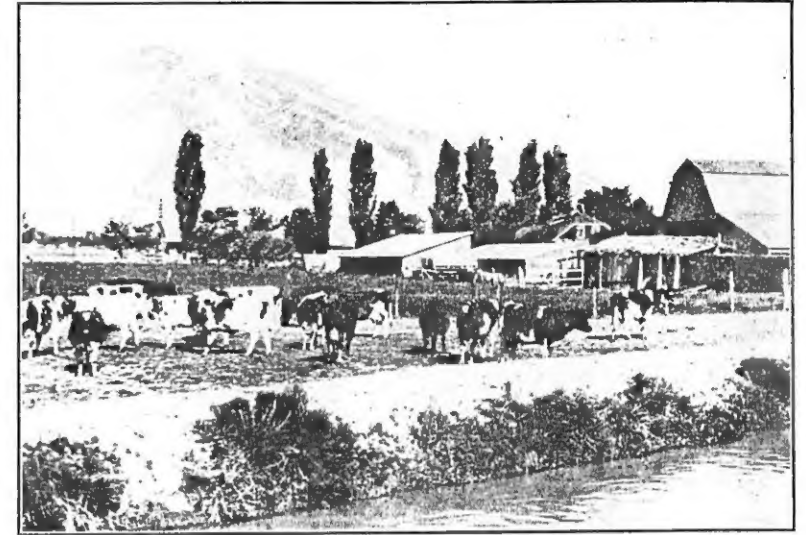
Channel Islands	Ruminant
DES	Ungulate
Farm and Farming (pictures)	Western Frontier Life (The Cattle Boom; Life in the Country; picture: Texas Longhorn Cattle)
Horn	
Pasture	

Outline

- I. The Bodies of Cattle
 - A. Teeth
 - B. Horns
 - C. Stomach
 - D. Udder
- II. Beef Cattle
 - A. Aberdeen-Angus
 - B. Brahman
 - C. Charolais
 - D. Hereford
 - E. The Santa Gertrudis
 - F. Shorthorn
 - G. Other Beef Cattle
- III. Dairy Cattle
 - A. Holstein-Friesian
 - B. Jersey
 - C. Guernsey
 - D. Ayrshire
 - E. Brown Swiss
 - F. Other Dairy Cattle
- IV. Dual-Purpose Cattle
 - A. Milking Shorthorns
 - B. Red Poll
- V. Breeding and Care of Cattle
 - A. Breeding
 - B. Feeding
 - C. Diseases
 - D. Dwarf Cattle
- VI. Raising and Marketing Cattle
 - A. Feeder Cattle
 - B. Grass-Fed Cattle
 - C. Dairy Cows
 - D. Show Cattle
- VII. History

Salt is taken from Great Salt Lake and purified. Flour is milled from wheat grown chiefly in Utah and Idaho. Cattle and sheep from Utah and all the neighboring states are marketed at the Salt Lake City stockyards. Some of the cattle and sheep are killed and dressed by meat-packing plants, chiefly in Salt Lake City, and others are shipped on to eastern markets.

Farming in the Salt Lake Valley. — The farm lands of the Salt Lake Valley produce abundant crops of hay, grain, sugar beets, vegetables, and fruits. The vegetable farms, or "truck farms," are among the most productive in the West. Many dairy and poultry farms supply milk and eggs for the city markets (A).



A. — A typical dairy scene in the Agricultural Belt.